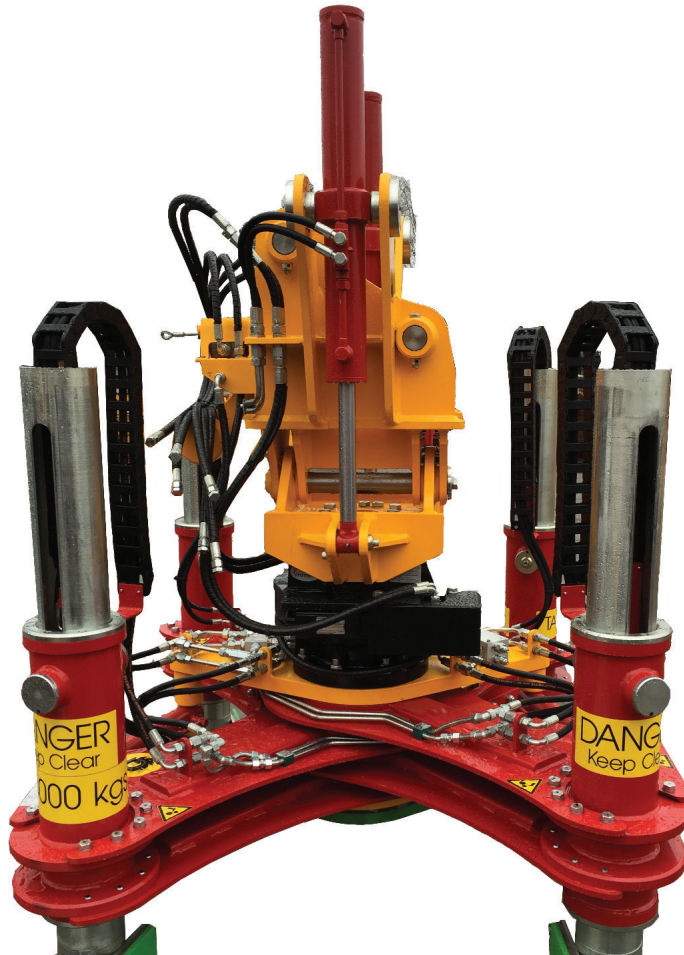


SM15-01 STEEL MANIPULATOR Specifications



Specifications and Options for the
SM15-01 Steel Manipulator

Issue 3

August 2018

Introduction

The SM15-01 Steel Manipulator is a unique grab designed for handling square box section, rectangular box section I-beam and fabricated section steelwork.

Steel sections can be grabbed from any side and the SM15-01 automatically adjusts itself to suit the shape and size of the material, carefully gripping the section with a controlled and even pressure through durable pads which protect delicate surface coatings.

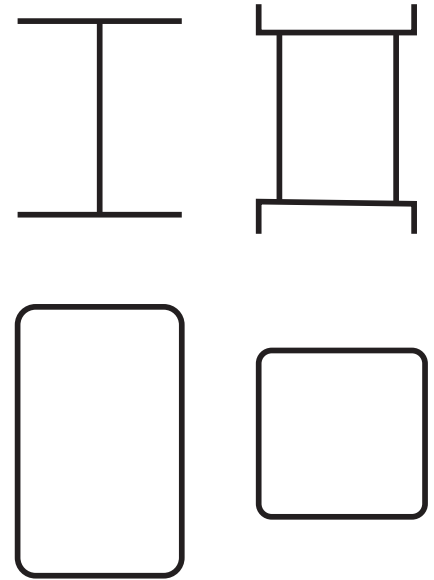
Any section size from 200mm to 650mm can be accommodated by the gripping mechanism of the SM15-01 Steel Manipulator.

A worm drive rotator allows precision positioning of the steelwork and, when combined with one of the optional tilt heads, the operator has full control of the material to position it accurately in every direction.

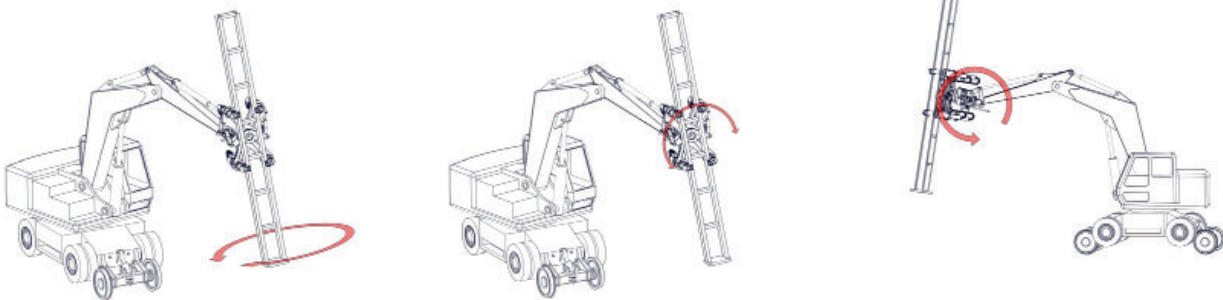
A pendulum safety lock valve is incorporated into the adapter head. This allows the operator to freely handle masts lying horizontally but, when the mast is tilted upwards, the jaws of the device are locked to prevent inadvertent release of the load.

The pendulum safety lock valve can be incorporated into fixed adapter heads if required.

Once the mast is in position and secured, the pendulum safety valve of the SM15-01 Steel Manipulator can be released by the machine controller allowing the operator to open and release the grab.



Use the SM15-01 to handle square box sections, rectangular box sections, I-Beam sections and fabricated steelwork



Steelwork can be positioned precisely and manipulated in all directions using the SM15-01 Steel Manipulator

Specifications

Weight with typical 60 degree tilt head	1,765	kg
Weight with typical 25 degree tilt head	1,665	kg
Weight with typical rigid head	1,510	kg
Max Load Capacity	3,750	kg

Section Capacity: Square Steel

Minimum:	200 x 200mm
Maximum:	650 x 650mm

Section Capacity: Rectangular Steel

Minimum:	300 x 200mm*
Maximum:	600 x 400mm*

*Note that any rectangular section with a minimum dimension of 200mm and not exceeding 650mm can be held by the SM15-01 Steel Manipulator

Rotator type	Worm Drive
Rotator Hyd Pressure (max).	160 Bar

Grab Hydraulic Pressure

Minimum:	90 Bar
Maximum:	210 Bar

Tilt Pressure

Minimum:	90 Bar
Maximum:	210 Bar

Grip force:

Per Leg lateral	10	kN
Per Leg longitudinal	10	kN

Safety Valve Lock Angle	15	deg
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Adapter Head Options

Each SM15-01 Steel Manipulator is factory equipped with an adapter head to suit your host machine.

Three options of adapter head are available: Fixed, 25 Degree Tilt and 60 Degree Tilt.

Tilting adapter heads require an extra hydraulic service but they allow the operator to rotate the mast to align with bolted flanges without slewing the machine.

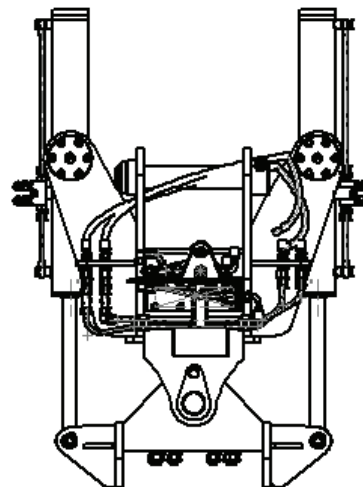
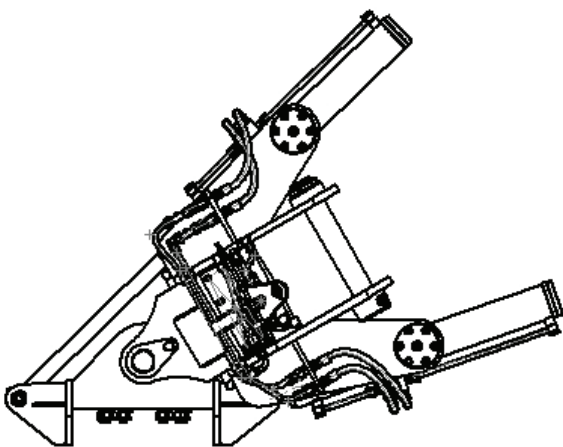
This facility is very useful where heavy masts must be placed close to the track line.

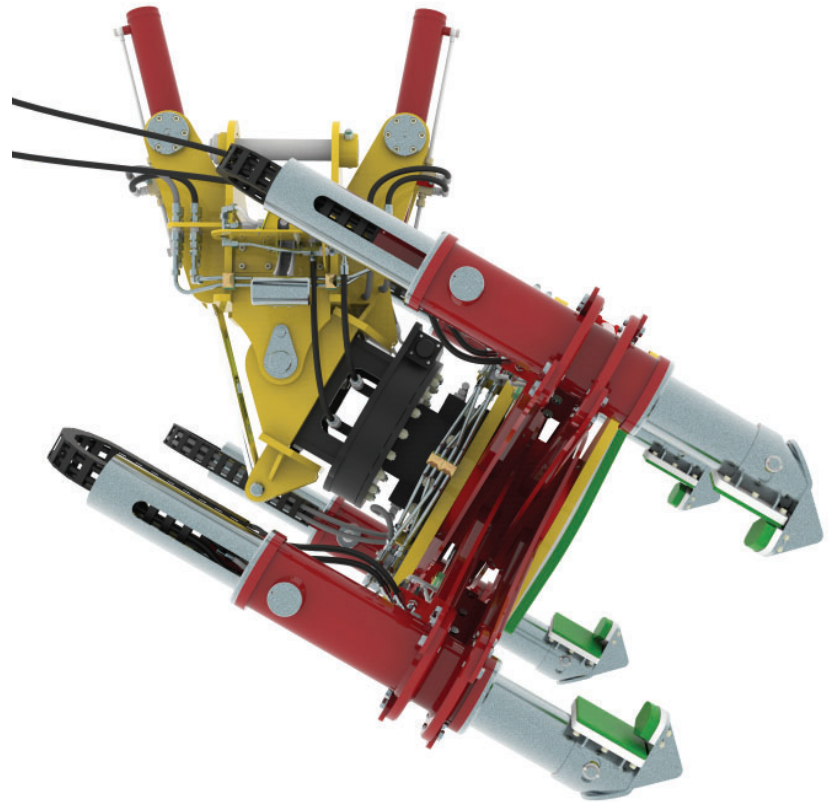
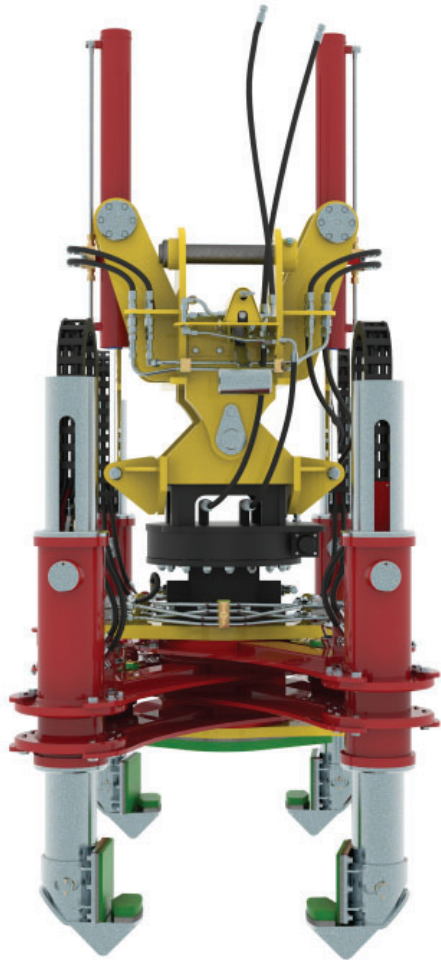
The weight and dimensions of the adapter head will depend on the fixing dimensions of the host machine but, for comparison, typical specifications are given below:

Head Type	Fixed	25 Degree Tilt	60 Degree Tilt
Weight	125kg	280kg	380kg
Pin Rake Angle	24 deg	24 deg	36 deg
Height Offset	225mm	310mm	485mm
Max Pressure	N/A	210 Bar	210 Bar
Min Pressure	N/A	90 Bar	90 Bar

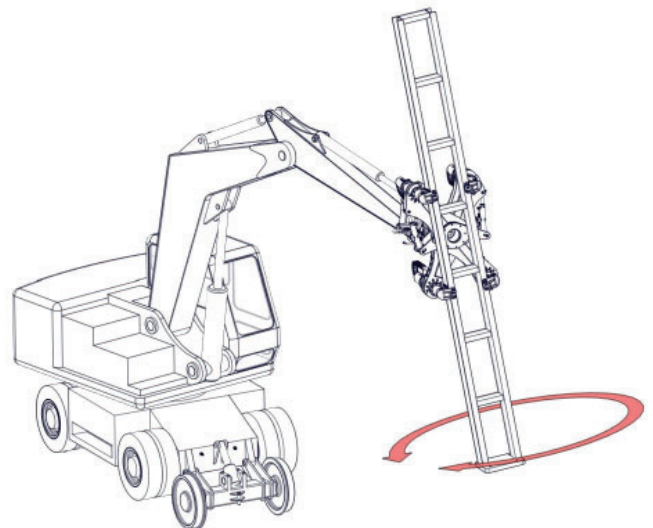
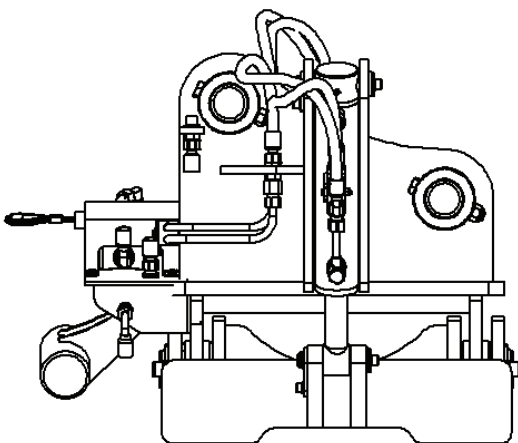


The fixed head makes the SM15-01 ideal for use with excavators already fitted with a proprietary tiltrotator

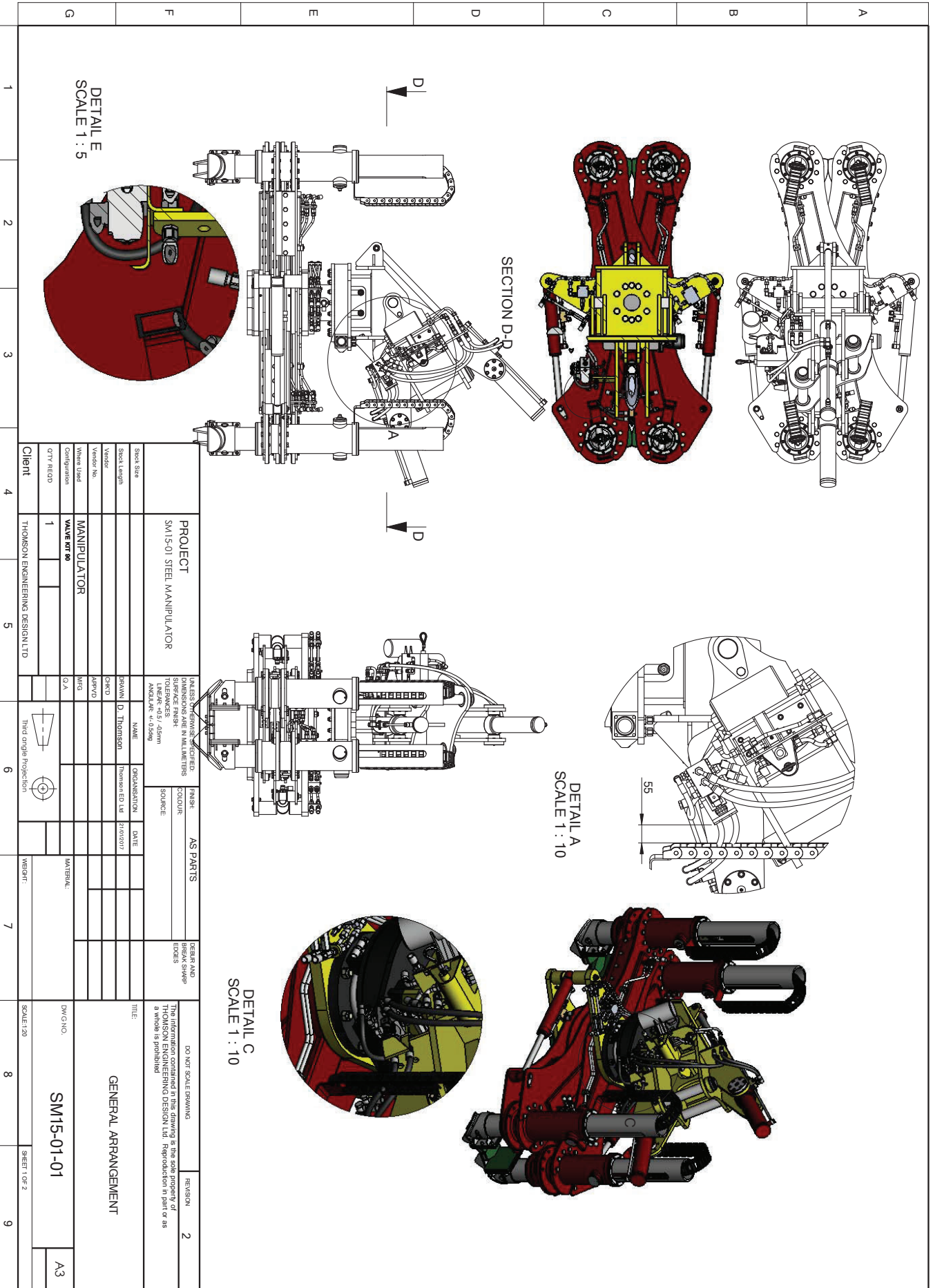




The full movement of the 60 degree tilt head option



The tilt heads allow the operator to rotate the mast about its base plate to align bolted flanges very accurately.



PROJECT		SM15-01 STEEL MANIPULATOR	
INVESTIGATOR	DESIGNER	FINISH	AS PARTS
DIMENSIONS/SCALE IN MILLIMETERS	SURFACE FINISH	TOLERANCES	± 0.1mm
ANGLE/SCALE	ANGLE/SCALE	ANGLE/SCALE	ANGLE/SCALE
NAME	ORGANISATION	DATE	ISSUE AND BREAK SWAPS
DESIGNED BY	THOMSON ED LTD	21/02/07	EDGES
CHECKED BY			
DRAWN BY			
WHERE USED			
CONFIGURATION			
QTY REQD	1		
CLIENT	THOMSON ENGINEERING DESIGN LTD		

GENERAL ARRANGEMENT		DO NOT SCALE DRAWING		REVISION	
TITLE		The information contained in this drawing is the sole property of THOMSON ENGINEERING DESIGN LTD. Reproduction in part or as a whole is prohibited		2	
DWG NO.		SM15-01-01		A3	
SCALE		1:20		SHEET 1 OF 2	
WEIGHT					
MATERIAL					
THIRD ANGLE PROJECTION					

1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G		

Contact Details

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PLEASE NOTE

Whilst every care is taken to ensure that the contents of this document are true and accurate, the specifications of our products and the scope of our services are constantly changing as part of our policy of continuous improvement.

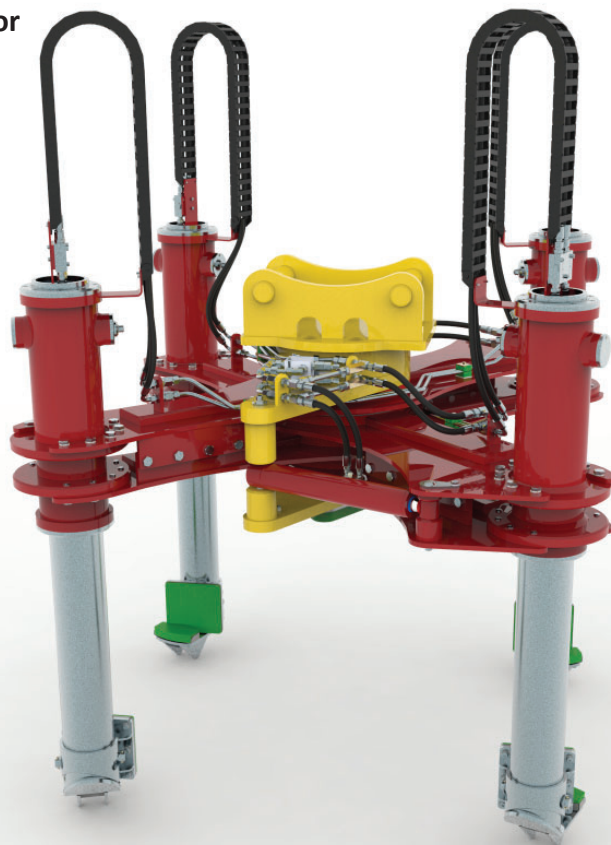
We strongly recommend contacting the factory to ensure that details given are still current.

More than half our business comes from special products designed and built as one-off's and we are always pleased to discuss amended specifications should the product detailed here not meet your exact requirements.





**Fixed Head version of the
SM15-01 Steel Manipulator**



**A special transport / storage
stillage is available with fork
lift pockets for easy handling**

